Tamsulosin for Patients With Ureteral Stones?

Yes, but only for some. Find out which of your patients can benefit.

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PRACTICE CHANGER

Prescribe tamsulosin for stone expulsion in patients with distal ureteral stones 5 to 10 mm in size.

STRENGTH OF RECOMMENDATION

A: Based on a meta-analysis of randomized controlled trials (RCTs).[1]

A 54-year-old man presents to the emergency department (ED) with acute-onset left flank pain that radiates to the groin. CT of the abdomen/pelvis without contrast reveals a 7-mm distal ureteral stone. He is deemed an appropriate candidate for outpatient management. In addition to pain medications, should you prescribe tamsulosin?

According to the most recent National Health and Nutrition Examination Survey, the population prevalence of kidney stones is 8.8%, with a self-reported prevalence of 10.6% in men and 7.1% in women.[2] Most ureteral stones can be treated in the outpatient setting with oral hydration, antiemetics, and pain control with NSAIDs as firstline treatment and opioids as a second-line option.[3]

In addition, α-blockers are used for medical expulsive therapy (MET). In fact, the European Association of Urology guideline on urolithiasis states that MET may accelerate passage of ureteral stones.[3]

Recently, however, uncertainty has surrounded the effectiveness of the α-blocker tamsulosin. Two systematic reviews (limited by heterogeneity because some of the studies lacked a placebo control and blinding) concluded that α-blockers increased stone passage within one to six weeks when compared with placebo or no additional therapy.[4,5] However, a recent large, multicenter RCT revealed no difference between tamsulosin and nifedipine, or either one compared with placebo, at decreasing the need for further treatment to achieve stone passage within four weeks.[6]

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STUDY SUMMARY

Results broken down by stone size

This meta-analysis, comprising eight double-blind RCTs, examined the effect of oral tamsulosin (0.4 mg/d; average course, 28 d) on distal ureteral stone passage in adult patients (N = 1,384).[1] A subgroup analysis comparing stone size (< 5 mm and 5-10 mm) was also conducted to determine whether size modified the effect of tamsulosin.

The eight selected studies were published between 2009 and 2015; the trials were conducted in multiple countries, in ED and outpatient urology settings. The main out-

come measure was the risk difference (RD) in stone passage between the tamsulosin group and placebo group after follow-up imaging at three weeks with CT or plain film radiographs.

Tamsulosin helps some, but not all. The pooled risk for stone passage was higher in the tamsulosin group than in the placebo group (85% vs 66%; RD, 17%), but significant heterogeneity existed across the trials (I^2, 80.2%). Subgroup analysis by stone size (< 5 mm vs 5-10 mm) revealed that, compared to placebo, tamsulosin was beneficial for larger stones (6 trials, N = 514; RD, 22%; number needed to treat, 5) but not for smaller stones (4 trials, N = 533; RD, –0.3%). The 5-to-10–mm subgroup had a less heterogeneous population of studies than did the < 5-mm subgroup (I^2, 33% and 0% respectively).

In terms of adverse events, tamsulosin did not increase the risk for dizziness (RD, 0.2%) or postural hypotension (RD, 0.1%), compared with placebo.

WHAT'S NEW

Increased passage of larger stones

This meta-analysis included only double-blind RCTs; prior meta-analyses did not. Also, this review included the SUSPEND (Spontaneous Urinary Stone Passage Enabled by Drugs) trial, an RCT discussed in a previous PURL (*Clinician Reviews*. 2016;26[4]:20,44), which recommended against the use of α-blockers tamsulosin and nifedipine for ureteral stones measuring < 10 mm.[6,7]

But the subgroup analysis in this review went one step further by examining passage rates by stone size (< 5 mm vs 5-10 mm) and revealing that passage of larger stones increased with tamsulosin use. The different results based on stone size may explain the recent uncertainty as to whether tamsulosin improves the rate of stone passage.

CAVEATS

What about proximal or XL stones?

Only distal stones were included in seven of the eight trials in this analysis. Thus, this meta-analysis was unable to determine the effect on more proximal stones. Also, it's unclear if the drug provides any benefit with stones > 10 mm in size.

CHALLENGES TO IMPLEMENTATION

None worth mentioning

We see no challenges to implementation of this recommendation. **CR**

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